

WHAT IS CLAIMED IS:

1. A communication infrastructure comprising:
a cellular telecommunications network having a distribution of cell sites defining a cellular coverage of the network;
a matrix of wireless local area networks (WLANs) each of which is connected to the cellular telecommunications network over a private data network, at least some of the WLANs in the matrix falling within the cellular coverage of the cellular telecommunications network; and
a plurality of mobile communication devices having both cellular communications network and wireless LAN connectivity, wherein the WLANs making up the matrix are selectively activated upon a request from the cellular telecommunications network in dependence on a determination when a mobile communication device connected to the cellular telecommunication network may be able to access one or more specified wireless LANs.
2. An infrastructure according to Claim 1, wherein the matrix of wireless LANS are registered with a wireless Internet service provider.
3. An infrastructure according to Claim 1, wherein the private data network is a virtual private network.
4. An infrastructure according to Claim 1, wherein wireless roaming between WLANs in the matrix is enabled.
5. An infrastructure according to Claim 1, wherein only WLANs within range of a mobile communication device are activated upon the request from the cellular telecommunication network.

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6. An infrastructure according to Claim 1, wherein the wireless LANs in the matrix are selected from the group consisting of: 802.11a, 802.11b and 802.11e.
7. An infrastructure according to Claim 1, wherein the wireless Internet service provider comprises the cellular telecommunications network provider.
8. An infrastructure according to Claim 1, wherein the mobile communications device is a battery operated normally-on device.
9. An infrastructure according to Claim 1, wherein the cellular telecommunications network provides low bandwidth services to the mobile communication devices and the matrix of WLANs provides high bandwidth services to the mobile communication devices.
10. An infrastructure according to Claim 1, wherein the cell sites are connected to a mobile telephone switching office (MTSO) connected to a public switched telephone network (PSTN).
11. An infrastructure according to Claim 1, wherein the determination of whether the mobile communication device may be able to access the one or more specified wireless LANs is made in dependence on the location of a mobile communication device in a cell.
12. An infrastructure according to Claim 11, wherein the determination utilises location identifying features of the cellular telecommunication network.
13. A communication infrastructure comprising:

a cellular telecommunications network having a distribution of cell sites defining a cellular coverage of the network;

a matrix of wireless local area networks (WLANs) each of which is connected to the cellular telecommunications network over a private data network, at least some of the WLANs in the matrix falling within the cellular coverage of the cellular telecommunications network; and

a plurality of mobile communication devices having both cellular communications network and wireless LAN connectivity, wherein the WLANs making up the matrix are selectively activated upon a request from the cellular telecommunications network in dependence on a determination when a mobile communication device connected to the cellular telecommunication network may be able to access one or more specified wireless LANs, the determination of whether the mobile communication device may be able to access the one or more specified wireless LANs being made in dependence on the location of a mobile communication device in a cell.

14. A communication infrastructure comprising:

a cellular telecommunications network having a distribution of cell sites defining a cellular coverage of the network;

a matrix of wireless local area networks (WLANs) each of which is connected to the cellular telecommunications network over a private data network, at least some of the WLANs in the matrix falling within the cellular coverage of the cellular telecommunications network; and

a plurality of mobile communication devices having both cellular communications network and wireless LAN connectivity, wherein the WLANs making up the matrix are selectively activated upon a request from the cellular telecommunications network in dependence on a determination when a mobile communication device connected to the cellular telecommunication network may be able to access one or more specified wireless LANs, wherein the

determination utilises location identifying features of the cellular telecommunication network.

15. A communication infrastructure comprising:

a cellular telecommunications network having a distribution of cell sites defining a cellular coverage of the network;

a matrix of wireless local area networks (WLANs) each of which is connected to the cellular telecommunications network over a private data network, at least some of the WLANs in the matrix falling within the cellular coverage of the cellular telecommunications network; and

a plurality of mobile communication devices having both cellular communications network and wireless LAN connectivity, wherein the WLANs making up the matrix are selectively activated upon a request from the cellular telecommunications network in dependence on a determination when a mobile communication device connected to the cellular telecommunication network may be able to access one or more specified wireless LANs, the determination of whether the mobile communication device may be able to access the one or more specified wireless LANs being made in dependence on the location of a mobile communication device in a cell, wherein the determination utilises location identifying features of the cellular telecommunication network.

16. A method of integrating a low bandwidth cellular telecommunications network with a high bandwidth wireless LAN comprising the steps of:

providing a mobile communication device with cellular telecommunication network connectivity and WLAN connectivity;

the cellular telecommunication network authorising connection of the mobile communication device to a wireless LAN over a private data network, the wireless LAN being selectively activated upon a request from the cellular telecommunications network in dependence on a determination when a mobile

communication device connected to the cellular telecommunication network may be able to access one or more specified wireless LANs; and connecting the mobile communication device to the wireless LAN.

17. A method according to Claim 16 comprising the step of determining whether the mobile communication device may be able to access the one or more specified wireless LANs in dependence on the location of a mobile communication device in a cell.

18. A method according to Claim 17, wherein the determining step utilises location identifying features of the cellular telecommunication network.

19. A method of integrating a low bandwidth cellular telecommunications network with a high bandwidth wireless LAN comprising the steps of:
providing a mobile communication device with cellular telecommunication network connectivity and WLAN connectivity;
the cellular telecommunication network authorising connection of the mobile communication device to a wireless LAN over a private data network, the wireless LAN being selectively activated upon a request from the cellular telecommunications network in dependence on a determination when a mobile communication device connected to the cellular telecommunication network may be able to access one or more specified wireless LANs; and
connecting the mobile communication device to the wireless LAN.

20. A method according to Claim 19 comprising the step of determining whether the mobile communication device may be able to access the one or more specified wireless LANs in dependence on the location of a mobile communication device in a cell.

21. A method according to Claim 20, wherein the determining step utilises location identifying features of the cellular telecommunication network.

22. A mobile communication device incorporating a wireless LAN chip set and a cellular telecommunication modem set to enable cellular telecommunication network connectivity and wireless LAN connectivity, the device further having a processor programmed to receive authorisation to use one or more specified wireless LANs from a cellular telecommunication network provider over the cellular telecommunication modem and to use the wireless LAN chip set to access the one or more specified wireless LANs upon a determination that the mobile communication device may be able to access the one or more specified wireless LANs.

23. A mobile communication device according to Claim 22, wherein the determination of whether the mobile communication device may be able to access the one or more specified wireless LANs is made in dependence on the location of a mobile communication device in a cell.

24. A mobile communication device according to Claim 23, wherein the determination utilises location identifying features of the cellular telecommunication network.

25. A cellular telecommunication network adapted to:
determine when a mobile communication device connected to the cellular telecommunication network may be able to access one or more specified wireless LANs;
obtain authorisation for the mobile communication device to use the one or more specified wireless LANs; and

provide to the mobile communication device information enabling the mobile communication device to use the one or more specified wireless LANs.

26. A cellular telecommunications network according to Claim 25 further adapted to activate the one or more specified wireless LANs.

27. A cellular telecommunications network according to Claim 25, wherein a determination of whether the mobile communication device may be able to access the one or more specified wireless LANs is made in dependence on the location of a mobile communication device in a cell.

28. A cellular telecommunications network according to Claim 27, wherein the cellular telecommunication network has location identifying features to determine the location of the mobile communication device within a cell and the determination utilises the location identifying features of the cellular telecommunication network.